

Storage

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Allows you to create individual storage volumes and attach them to EC2 Instances. Each volume is automatically replicated within its availability zone to protect you from component failure. You only have to pay for what you provision. Amazon EBS is a durable, block-level storage that you can attach to a single instance.

Amazon EBS

Amazon EBS volume types

Solid state drive (SSD)

- Used for general purpose
- Large database workloads
- Charged by the amount you provision

Hard disk drive (HDD)

- Streaming workloads need fast and consistent throughput at a low cost
- Used for big data

Amazon EBS snapshots and data transfers

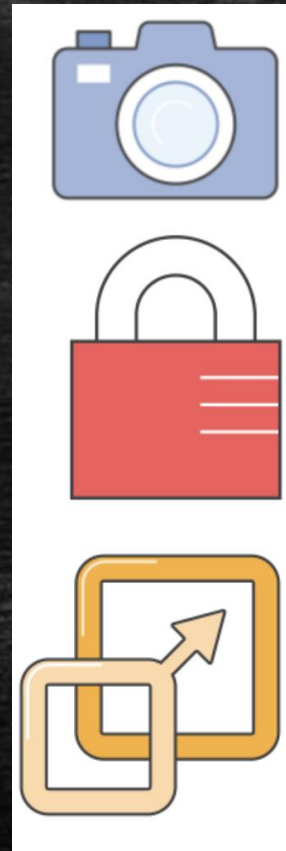
Snapshots of your volumes provide more disaster recovery protection

Amazon EBS allows you to back up snapshots of your data to Amazon S3

Data transfer:

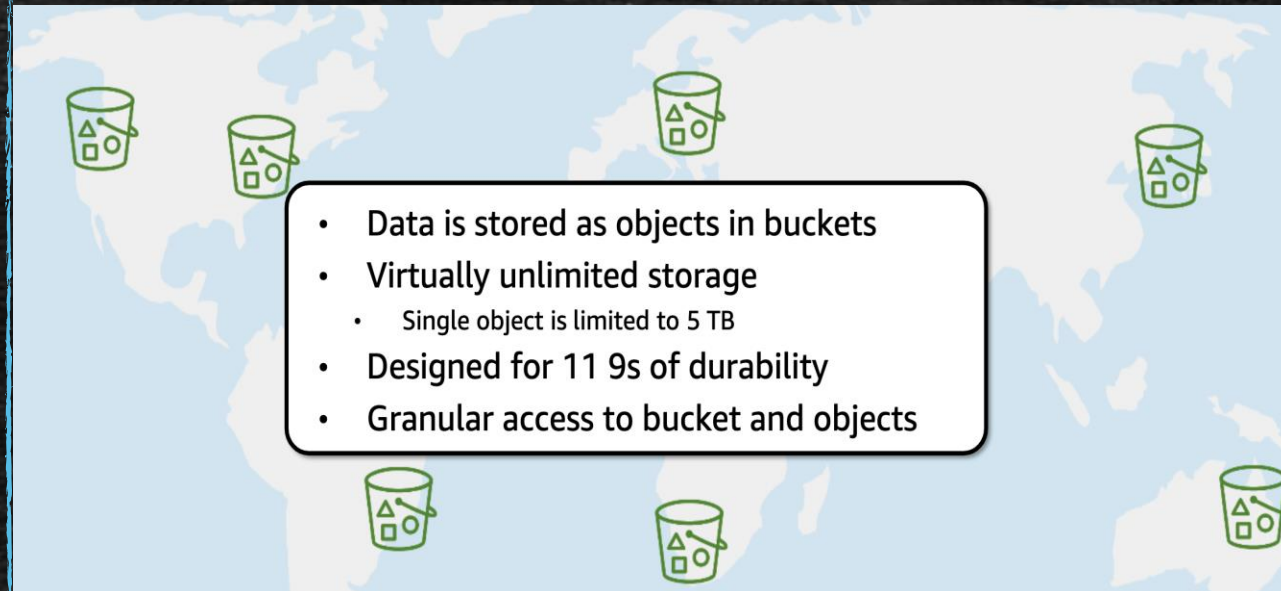
Inbound data is free

Outbound data that is incurred is charged



Amazon S3

- Object level storage
- When you want to change an object, you must change it and re-upload the entire file
- Data is stored as objects in buckets
- Bucket names are universal
- You can easily create, delete, and edit buckets with S3
- Objects can be up to 5TBs in size
- Amazon S3 includes notifications that can trigger lambda functions



Amazon S3 classes

- Standard
 - Used for frequently accessed data
- Intelligent-Tiering
 - Optimizes cost by automatically moving data to the most cost-effective tier
- Standard-infrequent Access
 - Used for data that is access less frequently but requires rapid access when needed
- One zone-infrequent Access
 - Used for data that is access less frequently but requires less rapid access when needed
- Glacier
 - Low storage cost for data archiving
- Deep Archive Glacier
 - Lowest storage cost for long data retention

Amazon Elastic File System (EFS)

- Offers a simple interface that allows users to create and configure a file system
- Built to dynamically scale without interrupting with applications
- Allows you to have storage when and where you need it
- Works well with big data and analytics
- You can mount the file system to an EC2 instance, and you can read and write data from the file system

Amazon S3 Glacier

- Data archiving service that is very low-cost
- It can take several hours to retrieve, which is why it works for archiving
- A vault is a container for storing archives
- A Vault Access policy determines who can access and not access the data
- Bulk retrivals typically take 5-12 hours to retrieve
- Amazon S3 lifecycle polices allow you to delete or move objects based on age
- All data is encrypted by default
- Also manages all of your keys from IAMs for you